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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/705,466 | 11/03/2000 | Edward C. Fisher | TI-24980 | 6798 |

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EXAMINER

THAI, LUAN C

ART UNIT PAPER NUMBER

2827

DATE MAILED: 10/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/705,466

Applicant(s)

FISHER ET AL.

Examiner

Luan Thai

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 11-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office Action is responsive to the amendment filed July 12, 2002.

Claims 1-16 are pending in this application.

Claims 11-16 have been withdrawn from the consideration as being directed to non-elected invention.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 2, the expression "said attaching step further comprising" has no antecedent basis and is unclear as to whether it implies the step of "attaching a device to a package substrate" or the step of "attaching a package lid to said package substrate" as being recited in claim 1.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-5 and 7-10, insofar as in compliance with 35 USC 112, are rejected under 35 U.S.C. 103(a) as being unpatentable over Chun (5,644,169) in view of Glenn et al. (6,117,705 of record).

The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Regarding claims 1-4 and 7-10, Chun teaches (specifically see figures 1 and 2), a method of protecting a micro electronic device, the method comprising: attaching a device 3 to a package substrate 1; the device 3 (e.g., CCD chip) having a debris-intolerant region on its top surface (noted that chip 3 in figure 1 and chip 11, having a debris-intolerant region 11a, in figures 3, are similar). The limitation of "the device having at least one debris generating region (e.g., sidewall) which sources debris over the lifetime of the device" is taken to be inherent in the device 3 (e.g., the die 3) since a wafer is separated into a plurality of chips of CCD 3 (Col. 1, lines 45+). Chun further teaches a step of electrically connecting bond pads on the substrate 1 with bond pads on the device 3 using bond wires 5, attaching a package lid 7 (e.g., transparent lid) to the package substrate 1. The process disclosed at Chun's figures 1-2 fails to teach a step of encapsulating the sidewall of the CCD chip 3 (e.g., the debris generating regions) and the bond wire 5 by using a photo-curable adhesive blocking material.

Glenn et al. while related to a process of protecting a micro electronic device teach (see specifically figures 7 and 13) a step of encapsulating the side wall 104 (e.g., the debris generating regions) and the bond wire 208 by using a

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photo-curable adhesive blocking material (Col. 6, lines 6+, Col. 15, lines 34+), wherein the blocking material is avoiding contact with the debris-intolerant region 105 (Col. 16, lines 5+). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Glenn et al's teachings to Chun device package in order to prevent external moisture which may penetrate substrate from reaching cavity and the chip, and thus prevents corrosion of bonding pad (Col. 15, lines 57+).

Although the proposed device of Chun and Glenn et al. does not explicitly state that the device is a micro-mechanical device, the recitation "micro-mechanical device" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

In addition, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a

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manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 5, Glenn et al. further teach the adhesive material being Hysol adhesive which inherently has a tacky characteristic and this adhesive would be obvious to include a getting function.

5. Kim et al., U.S. Pat. No. 5,622,873 (see figure 1, Col. 1, lines 18-50) also teaches a process identical to Chun's process; therefore, claims 1-5 and 7-10 are also rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. in view of Glenn et al. (6,117,705 of record) for the similar reasons detailed above.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chun (5,644,169) in view of Glenn et al. (6,117,705 of record) and further in view of Wark (5,817,540 of record).

The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Regarding claim 6, the proposed process of Chun and Glenn et al. disclose(s) all the limitations of the claimed invention as detailed above except for the step of removing the block material from the debris-intolerant regions.

Wark while related to a similar semiconductor device process teaches a step of forming an insulative material on an active surface of a device can be followed by a step of removing the insulative material at a predetermined area in

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order to dispose the predetermined surface area. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Wark teachings to the proposed process of Chun and Glenn et al. by adding the step of removing the unwanted material on the surface of the device in order to dispose the predetermined surface area.

7. The following reference(s) is/are cited as of interest to this application:

U.S. Pat. No. 6,169,328 (of record) to Mitchell et al. is cited for showing the Hysol adhesive (epoxy) to have a tacky characteristic (Col. 14, lines 24+, and Col. 6, line 33+).

Conclusion

8. Applicant's arguments with respect to claims **1-10** have been fully considered, but they are deemed to be moot in view of the new grounds of rejection.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action because the newly added limitation (e.g., the underlined portions) of independent claim 1 raise new issues that would require further consideration and/or search. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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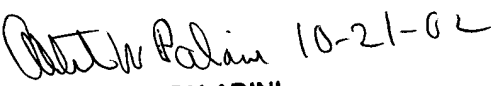
shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luan Thai whose telephone number is (703) 308-1211. The examiner can normally be reached on 7:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (703) 305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Luan Thai
October 21, 2002


ALBERT W. PALADINI
PRIMARY EXAMINER